

65
Tayt

383
B98r
pam

383

B 98 n

+ My 101MB

LIBRARY
UNIVERSITY OF TORONTO
TORONTO

A few copies of this report have been furnished personal friends and those specially interested in the subject. It is not however in any sense a published document or subject to public comment without the consent of the Postmaster General.

Dan'l Butterfield.

PRINTED BY THE GRAPHIC COMPANY'S RAPID PROCESS, 39 & 41 PARK PLACE.]

Taylor 65

Continued 203

To the

Honorable J. A. J. Creswell.

Postmaster General.

Washington. D.C.

Sir:-

I have the honor respectfully to submit the following report of an examination of the local postal systems of Paris and London.

My examination of the Paris system was made during a long stay in that city. Every facility was given me for the fullest inquiry by the courtesy of Monsieur Rampont, Directeur General of the French Postal Service; Monsieur Chassinat, the immediate chief of the Postal Service of the Department of the Seine, and in charge of the General Post Office of the City of Paris, kindly furnished me with the official documents (in French) accompanying this report, and gave me every possible fa-

cility and information

The local postal service of the City of Paris is centralized principally in the general Post Office at Paris.

The collection of letters for city distribution or departing mails, and the delivery of letters are made a separate and distinct service.

For the collection of letters with other duties such as selling stamps, rating letters, registering letters, money orders, &c &c. Paris has thirty nine Bureaux - so called or sub-offices within the walls of the City, and sixteen in the suburbs adjoining Paris.

The location of these bureaux will be found on the accompanying map of Paris, they are designated by the small tricolor flags thus.

By reference to the distance scale on the map their relative proximity with each other and the central office will be easily found. Their lines of communication with the Central or chief-office are shown by the purple

lines on the map.

It will be noticed that there are no lines of communication between the sub-bureaux except through the central or general office, hence my designation of the system as one centralized in the general office.

These Bureaux or sub-offices are not charged with the delivery of letters, except only such as may be collected within their own district destined to points also within the district.

All their collections of letters are sent in through the general or central office for distribution. The letter boxes and receptacles for letters placed at various points in these districts are shown on the accompanying map by the small purple flags with red ball at the base of the staff thus. The collections are made from these receptacles seven times per day at the hours as shown in the accompanying document marked "A." page 49. "Annuaire des Postes."

This document will also be found to contain much general information with regard to the French Postal Service but not pertinent to the subject of city delivery to which only my attention was directed.

It will be observed by the tables referred to in the "Annuaire des Postes" that there are special collections made at some fifteen places outside and distinct from the regular daily routine. This is a most important and valuable feature of the service, and may well be followed in many of our large cities with advantage to the public, and if the foreign system of extra stamps for late letters is added, with an increased revenue to the service. The location of these points where the extra collections are made is principally in the vicinity of the railway stations from which the principal mails leave Paris, and the letters collected by these special deliveries are taken direct to the railway stations and placed in the railway postal carriages affording a very important and desir-

able facility for late letters. A regulation of the postal department, both in Paris and London requires an extra stamp to be affixed to all letters for which this service is demanded. I cannot better explain this special collection than by supposing a case in a city like New York.

Presuming that the principal mails leaving New York City close at the General Post Office at 6 o'clock A.M. & 6 o'clock P.M. leaving by the various trains departing for the South West, North & East at 8 A.M. & 8 P.M. Letter boxes at points like the 5th avenue Hotel and the 42nd St Grand Central Station would be emptied by a special collection at 7.30 and their contents go direct to the postal cars leaving for Boston and the New England States - Albany, Buffalo and the West at 8. o'cl. again letter boxes at Broadway and Courtland Streets - Broadway and Chambers Streets would in like manner be emptied and their contents taken direct to the postal cars leaving for Washington and the South, Philadel-

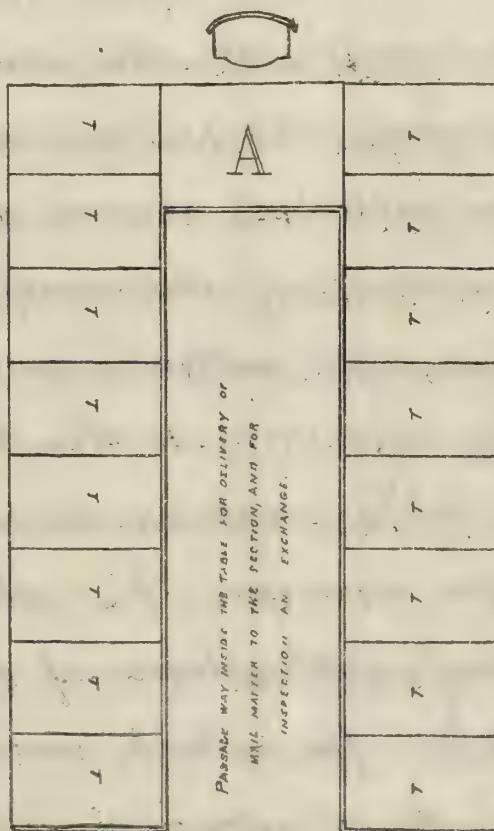
phia and the west by the railway postal carriages on those lines. The absence of the extra stamp to compensate for this additional service would cause the letter thus deficient to take its usual course in a succeeding mail. Further allusion to this late letter service will be found in connection with the portion of this report referring to London.

To return to the functions of the sub-offices or bureaux. The collections made from the various receptacles and taken thence to the sub-offices are sent into the Central (General) Office every two hours by means of light two wheeled vehicles called Tilbury's a vehicle drawn by one horse and exceedingly well adapted for the service. These vehicles move to and from the General Office over the routes or lines colored purple on the map. These vehicles are also occasionally used for dispatching mail matter from the Central Office to the various railway stations on their return trips. There are other and larger vehicles for this special

service alluded to hereafter. The men employed in the collection of letters are localized by Brigades or squads to each of the sub-offices or Bureaux. The distribution and delivery of the City letters is made a separate and distinct service emanating from the Central or General office. For this purpose Paris is divided into eleven districts called "Rayons". These "Rayons" are shown by the different colors on the accompanying map. Each "Rayon" or district has from 15 to 18. sub divisions. Each of these subdivisions is the route of a "facteur" or as we term them "carrier". For each of the (Rayons) districts there are three "Brigades" so called, or detachments of "carriers". The numbers of "carriers" in each Brigade correspond with the number of subdivisions in the district (or Rayon). There are seven deliveries daily in each Rayon as follows, viz: (leaving the Central Office at) 7. 9. 11½ A.M. 1.30. 3.30. 5.30. and 7. P.M. Sundays and Holidays the deliveries at 5.30. and 7. P.M. are omitted, with these exceptions the

deliveries are made regularly every day in the year.

For the preparation and reception of the letters to go out by these various deliveries there are prepared eleven sets of distribution tables (one for each of the eleven districts or Rayons) at the Central Office. These distribution tables are exceedingly well adapted to the required service and are arranged as shown by the accompanying sketch.



A. Seat and desk of the chief of the Rayon or section-overlooking the Brigade of Carriers, from this point he supervises the work for that Rayon and keeps also the accounts. TTT are the divisions assigned to the different carriers for the Rayon or section; each carrier has a seat or chair.

The Brigades of carriers are posted at these tables to receive, sort and prepare their letters for distribution. The chief of each Brigade remains permanently at the table for the Rayon at the position shown in the sketch, supervising the work and is charged with the control and supervision of the Brigade, the records and accounts of postages to be collected, record of registered letters, proper return of the receipts thereof &c. The Brigade return the collections and receipts to him and the accounts to the General cashier of the office. The cashier keeps no account in detail with the carriers, but charges only the Rayon or its chief with items of postage, registered letters &c. &c. - for which returns are required. Each of the messengers travelling on the

postal cars arriving at Paris, is provided with a printed directory of the city specially prepared by the Post Office department for this service — see document, X accompanying this report. This directory gives the names of the Boulevards—Streets, Passages &c. &c. of Paris, and opposite each the Rayon or district to which it belongs. By the aid of this directory the letters and mails arriving at Paris are all sorted "en route" and immediately upon their arrival go to these distribution tables for sorting by the carriers who deliver them. The assembly of the Brigade of carriers for one section of the City around the table representing that section, gives excellent facilities for the correction of errors in sorting, finding addresses, places &c &c.

The errors made by the officials of the Railway postal cars in assorting for the City delivery are frequently as high as three or four thousand in number per day. These errors are corrected with great rapidity and trifling

delay by the chiefs of the respective Rayons and their subordinates of the Brigade. A few moments prior to the fixed hours for deliveries, a signal bell sounds. Instantly the Brigade at the distribution tables prepare for their departure. The letters are placed in their pouches and the entire force Eleven Brigades of from 15 to 18 men each, leave the tables and descend to the court in the central area of the General Post Office. Here are waiting eleven large omnibuses, one for each district. The carriers take their places in the omnibuses and are driven rapidly to their respective districts to commence their tour of delivery. The omnibus on its return takes up those carriers of the Brigade who have made the previous tour and lands them in turn at the Central Office. There being three Brigades to each district, we will suppose one leaving the office for the 1 P.M. delivery, another have just about completed the 11 A.M. delivery and return to the office by the conveyances which took out

the 1. P.M. delivery carriers - while the third of the 13 brigades being in waiting at the Central Office the moment the 1. P.M. delivery left the tables, this Brigade, or rather set of Brigades replace them at each of the 11 Tables representing the Rayons or districts to receive and prepare for the following delivery. This rotation goes on regularly for each of the deliveries. The tours of duty for the Brigades can be more clearly understood by the following table. —

7 A.M.	9 A.M.	11.30 A.M.	1.30 P.M.	3.30 P.M.	5.30 P.M.	7 P.M.
I.	II	III	IV	V	VI	VII
DELIVERY.						
I. Brig	-	I. Brig	-	-	-	-
2 nd Assist	-	-	II. Brig	-	II. Brig	-
-	III. Brig	-	-	III. Brig	-	III. Brig

For the 1st or 7. A.M. delivery which has all the late mails arriving in Paris, the evening previous as well as the midnight and early morning mails, the First Brigade make the delivery, — they have however in waiting in the respective delivery dis-

stricts the second Brigade to take a portion of the delivery and assist them. Thus it will be seen the labor of the respective Brigades is pretty evenly distributed. The first Brigade going on duty about 4½ A.M. and completing their days labor shortly after noon or upon completion of their 11.30 A.M. tour. The second Brigade are in waiting at 7 A.M. in their respective delivery districts to receive from the first Brigade a portion of the very heavy morning delivery and assist in its distribution, in addition to this they make the 4th & 6th deliveries completing their daily work as soon as the 5.30 P.M. delivery is finished. The Third Brigade are at the Central Office at 7 A.M. to take their places at the distribution tables at that hour upon the departure of the First with the 1st delivery, they (the 3rd Brig) then make the 2nd or 9 A.M. - 5th or 3.30 P.M. and 7 P.M. or last delivery. The hours of duty thus average about 9½ per day for the delivery carriers. The compensation of these employees varies from 900 francs up to 1800 francs per year varying with length

of service. The chiefs of each Brigade receive 300 francs additional. In addition to this regular compensation, the men are accustomed and permitted to receive gratuities from the public during the Holiday or Christmas season. These sometimes amount to as much as their entire compensation from the government varying from 400 to 1200 francs according to the character of their district. Those among the wealthy bankers, and merchants receiving a much greater sum than from other localities. The carriers uniform themselves in the dress prescribed by the postal department. They are allowed 50 francs in addition to their pay for shoes. The length of service of these men seldom exceeds 25 years, as after that period of service a provision of the service regulation gives them a retiring pension. Fifty five years of age is the general limit at which the men are found useful, - although exceptions occur where retention of strength with activity and energy

enable the carrier to continue his duties beyond that age.

Promotions are made from carriers to chiefs of Brigades; the carrier can also be promoted to higher positions in the postal service when vacancies occur provided, he can pass the civil service examination showing his ability and fitness therefor. The pay is increased by 100 francs for each 5 years service.

The service of the vehicles, omnibus and Tilburys is performed by contract at a fixed price per mile of service - 5. centimes per kilo, - about covers the repairs to the vehicles and the haulage on the Tilburys. The subjoined table shows the rate of pay for all the street service with horses in Paris, according to existing contracts... 1872. viz.

VEHICLE.	CONTRACT PRICE FOR REPAIRS & RENOVALS		CONTRACT-PRICE PER KILO FOR SERVICE	
	FRANCS.	CENTS.	FRANCS.	CENTS.
TILBURY'S, FOR COLLECTION SERVICE. ONE HORSE.	-	4.25	-	33
OMNIBUS FOR CARRIERS TWO HORSE.	-	8.75	-	72
FOURGONS.	1		-	55
	2		1	30
	3		-	60
	HORSE			

The Fourgons are heavy wagons for the transport of the mails between the central office and the railway stations. All the vehicles belong to the government, but the contractor is bound always to keep the vehicles perfect, he is not allowed to repair a broken wheel or part, the entire wheel or broken part must be replaced at once by new which the contractor is bound to keep on hand for the purpose ready for instant use. There are two contractors for the service as shown in the table above, one for the transport service, another for the maintenance and renewal of the vehicles.

The contractors are bound to perform the transport service at a given speed per hour, with the requisite promptness for all the service, to have on hand at all times and maintain the necessary stock of horses and harness. The drivers are employed by the contractor subject to the approval of the Post Office department, who clothe and uniform them; the contractor pays them. The drivers must have been three years

in private employ as coachmen or two years with some large company or manufacturing establishment in Paris as driver, must be under 45 years of age, and know how to read and write. These are the principal requirements.

The collection of letters from the mail boxes is a separate service and made by means of a separate set of employees who are located at the bureaux or sub-offices. These vary in number at each bureaux as experience and the extent of the districts may require. The number of sub-offices or bureaux, will appear by the map. Of vehicles employed for the service of the Postal Department in the City of Paris. They are as follows, viz:-

- | | | |
|----------|--|--|
| 19. | Two horse omnibuses for factors or carriers. | |
| 3. | Four horse fourgons or large mail wagons. | |
| 15. | Two horse fourgons or mail wagons 4 wheels. | |
| 27. | One horse " " " " 2 " | |
| 30. | " " Tilbury's small " 2 " | |
| <u>1</u> | <u>1</u> " " " " " 4 " | |
| 95 | vehicles in all. | |

250 horses. One hostler for each ten horses.

65. drivers, (the number increased at will) were in employ at the time of my examination. The number of drivers and horses are always sufficient for the service of the vehicles above. I had neglected to mention that the contracts specify the height and color of the horses.

The number of carriers employed is as follows. Factors or carriers.

For the distribution and delivery

being 33 Brigades, of 15 to 18 men..... 500

For the collection of letters (attached
to the bureaux or sub-offices) Paris
and suburbs..... 400

For the distribution of printed mat-
ter and samples, circulars &c &c.

which are not allowed to interfere
with the regular correspondence mail .. 100

For the various services above set
forth outside the walls of Paris
and in the suburbs, under con-
trol of the Paris P.O. 200

Total number of men 1,200

For the accompanying map, documents and the details of the information herein contained, I am indebted to the courtesy of Monsieur Chassiat, "Directeur of the Department of the Seine."

My examination into the London Postal System was brief and hurried for two reasons

First- My understanding that the late Postmaster Kelly of New York had under the directions of your predecessor made an investigation and report which would render a precise detailed and accurate report upon my part superfluous

Second- Want of time on my part.

I directed my attention in the brief examination made to ascertain the causes which gave the London Post Office such a high reputation over all other cities for its prompt and accurate service. This became apparent in a very few mo-

ments by comparison with the Paris and New York systems.

In place of the Five deliveries daily in New York and Seven in Paris, — The London office makes TWELVE deliveries per day, as follows.

7.30. — 8.15. — 10.30 — 11.10 AM. 12.10 — 1.10. — 2.10. — 3.10. —
4.10. — 5.10. — 6.10. and 7.45. PM

The collections made in the same hours with subsidiary collections (made each of the half hours after noon) made 17 daily collections. This with the decentralization of the system as compared with the Paris method and the immense force employed furnished the key and explanation.

In place of one central Office as in Paris, — London has eight, holding direct communication with each other by wagon (termed cart service) These districts are termed - Eastern Central, — Western Central, — Northern, — Eastern, — South Eastern, — South Western, — Western, — and North Western District Offices.

The daily despatches of mails by cart service from the Eastern Central District to the West-

--

ern Central District numbered 28. as will be noted by reference to document K. hereto annexed which document is the "Daily Summary," of the London District Mail cart Service. This also shows the dispatches and arrivals per diem between the Eastern Central, and the other offices alluded to. Document I. shows the hours of delivery from the Eastern Central Office, and is the form of return of dispatch of carriers on the Day Deliveries made to the supervising official; it fully explains itself. Document M. is the Morning and Evening Duty Report sheet of the Central Office (Eastern District) and is self explanatory. The document, marked O. is the Postal Street Directory for sorting purposes, giving the names of the streets and localities in London and vicinity with the initials of the Postal District to which they belong. Document P. is the seventeenth Report of the Postmaster General, the contents and general information contained in which are undoubtedly well known to you. Document R. is the form of contract in use by the British Gov-

overnment (Postal Department,) for the mail service by carts and wagons. The remaining documents not numbered or marked sent herewith allude to the regulations in force for the employment and appointment of Boy clerks, for sorting purposes in the General Post Office, Boy Telegraph Messengers, Public writers and other rules appertaining to Civil Service appointments. I enclose them not necessarily as a part of this report, but for the information of the Postmaster General. The map (postal) of London herewith marked S. is almost self explanatory. It shows the Eight Postal Districts by the separate colors. These Eight Grand Districts are again subdivided into sub-districts each with an office, similar in character to the stations or sub-offices in New York, known as Station A. B. C. D. &c. These sub-district officers number 93.- in the district shown on the map. The greatest length and breadth of this district as shown by the scale would be 24 and 18 miles respectively. The average distances between the sub-district offices in the close and densely

populated portions of the city it will be seen is but little over a mile. I had not the facilities in my brief visit to get at the details of the force employed, their compensation, hours of duty and regulations to carry on the enormous service. These can all be obtained by correspondence if considered advisable or necessary.

I tried experiments repeatedly in posting letters to different parts of London at certain times and for certain purposes, principally to find a failure, if I could. In this I did not succeed. I noticed inside the "pillar" boxes, as I watched the "postman" emptying them, a register on a sheet of paper attached to the door or opening, upon which each of the collectors noted in turn, the hour of his collection, with his name.

The more general use, than in New York, of letter boxes in dwellings for depositing letters by the carriers, facilitate their work.

A part of any improved system, - or even of the existing system, - should be to impress upon the public the advantage accruing from

their use.

My attention was attracted, among other things noticed in the London Postal district, to the absolute and positive confidence which every one seemed to place in the reliability and certain rapidity of the "Post". Should this confidence once be obtained from the public in and about New York City, and its suburbs, it seems to me certain that the additional revenues derived would far more than compensate for the increased cost of a city postal service equal to that of London. I do not wish to be understood as implying in the least degree any want of confidence in the integrity and certainty of our own system, but there is certainly no such confidence as a whole with the public as to its rapidity and precision of delivery as exists in London towards the postal department, - as this arises solely from want of men and means, with us, it can be easily remedied.

Upon most of the "pillar" boxes of London a simple porcelain tablet announces the hours at

which the boxes were emptied of their contents. I watched repeatedly the receptacle near my hotel window never to find a failure, seldom to find a departure exceeding five minutes from the exact time specified. For the "too late" mails often the postman came in a "hansom cab", but he never failed. The "too late" privilege is that of depositing letters from half an hour to an hour and a half after the closing hours for the regular mails and having such letters go forward by the use of an extra stamp. This service yields a very considerable revenue, and if anything like as successful in New York, as in London, it would amply pay for an extra force especially for the service.

The general hour for closing the evening mails in London is 6. P.M., and the following rates are fixed for letters "too late" i.e. posted after 6. P.M. to go forward by that evenings mail.

From 6. to 6.45. P.M. One penny (English)

" 6.45. to 7.30 " Two pence. "

These payments are made by extra stamps af-

fixed to the "too late" letters. Separate boxes, or receptacles for the "too late" letters are provided at all the sub-offices. The "pillar" boxes have an announcement on a porcelain plate when such boxes can be used for posting "too late" letters. In case of letters being posted or placed in these receptacles without the extra stamp or fee, they are not sent by the evening mail, but go forward the following morning. The amount of revenue derived in London alone from these "too late" letters, being the extra fees or stamps, over and above the regular postage, amounted in the year 1870. to £22. 15s. - or over \$110.000. of our money, one fourth of that sum would compensate for the cost of an extra force, and all cost for such a service, independent of any of the employees, now in service in New York. It is only fair to estimate that similar results would follow its introduction.

The increase of employees in the London Postal establishment, under the head of Sorters,

Letter carriers, countermen and messengers in one year (1870) was 750 or nearly double the number of all the employees, in that branch, in the New York City postal establishment. Of this one years increase in the number of employees at the London establishment, a great part consisted of boys. The Postmaster General in his 17th annual report speaking of their employment says,

"These boys * * * are mostly employed in sorting newspapers, and whatever apprehensions may have been entertained as to their fitness for the work, they have been agreeably disappointed. The business has in no way suffered, the per-cent age of errors has not increased and the mails have been despatched with the accustomed punctuality. A similar experiment, although, of course on a different scale, has been tried in Scotland, and has, I understand, been attended with equal success." —

Since my return to New York, I have made an examination of the local postal system in New York City. I made this examination, not

from any suggestion or request on the part of the Honorable the Postmaster General, but naturally enough to ascertain, of my own knowledge, whether the existing arrangements for the service were of such a nature as not to suffer by comparison with what I had witnessed in London and Paris.

I was afforded every facility for this examination by Gen'l P. H. Jones, of the New York Post Office, and have been furnished with full and detailed information and a valuable report by Sam'l Smith, Esq. Special Agent, for the free delivery service. The result of these investigations convince me of existing deficiencies in the service between New York and its suburbs, also of the necessity of increased force and means for the service at New York, and the arrangement of the service and appointments in such a way as to be free from changes, in employees, for political reasons, and the entire arrangement of the force upon the general principle laid down for the improve-

ment of the Civil Service

It may seem, at the first glance, an extravagant and unwarranted expenditure to introduce at high cost, perhaps, compared with wages in London, a metropolitan system as complete and perfect as that of London. There are two replies to such objections.

1st. The expense can be considerably modified from the cost paid to present postal employees, by using in the additional force required, the labor of boys and at sub-offices of females whose salaries need not be as great as that of the present carriers and clerks, although the present employees, certainly, are not overpaid, considering the great amount of work performed, an additional line of promotion can be opened which will certainly be of value to the service.

2nd. In London it pays, and it is not fair to presume that it will not pay here, it would be to assume that there exists less of that intelligence and enterprise in our community to take

advantage and make use of such facilities
then in London.

To these may be added the conceded custom and willingness to furnish all the postal facilities required or necessary on the part of any portion of the country at the expense of the whole system and ungrudgingly as to cost, provided an equivalent is rendered the public. Should the experiment, after a fair & thorough trial, prove either, not to be self sustaining, or not to be demanded or necessary, it could be discontinued and the experiment cease.

The universal experience of our country at large in matters of business, especially those connected with transportation either of passengers or merchandise, has shown how readily all new facilities are availed of and how soon they become absolute necessities. That this will be the result of the establishment of a thorough complete and absolutely certain (in its regularity and rapidity,) Metropolitan System of postal work, equal to that of London, in and about New

York and the suburbs, I think beyond a question.

The necessity of certainty in the system seems proven where it exists in much greater perfection by the system of checks and reports used to ensure it. Many of these are shown in the documents from the London office accompanying this report

My idea of a proper Metropolitan system is that it should include under one directing head New York and the suburbs including,

Astoria	Hoboken
Brooklyn	Jersey City
Bergen	Long Island City
Bergen Point	Morrisania
East New York	Mott Haven
Greenpoint	Williamsburg
Greenville	Weehawken.
Hudson City	West Hoboken.

so managed that a letter requiring an answer mailed from any part - to any part of such district before 10 o'clock A.M. could be delivered, answered, and the answer delivered by post

before the deliveries cease, on the same day.

That this can be done, I fully believe possible.

Bay Ridge Fort Hamilton Flatlands

Yonkers Riverdale Spuyten Duyvil

Kingbridgeville New Utrecht Ravenswood.

and all of Staten Island (14 offices)
can probably be included with the above.

Treated as a whole, the district is one vast community, having certain commercial financial and manufacturing centres separated partially from the residential districts, constantly growing and increasing in population and business and one in which the postal service has to look forward to increased and constantly increasing expenditures to meet its requirements. These will in turn be followed by increased revenue and the service will sooner or later be one of great profit to the Postal Department.

Like causes generally produce like results. It can be with us scarcely anything more than a repetition of the experience in London and

its suburbs. If we have sooner adopted cheap postage in proportion to our metropolitan population than it was done there, (of this I am unable to speak from want of reliable data,) the sooner we adopt all the facilities existing there so much sooner it would naturally seem should we reach the point of large excess in receipts over expenditures. Its full and thorough trial here will solve the question as to its adoption in other large and growing cities throughout the country. Where the largest population and business exists would naturally be the most successful experiment. Should it fail here (which I do not in the least apprehend) there would be some justification in holding on to a less rapid and less expensive system of facilities elsewhere.

One feature I consider positively essential for thoroughly successful management and administration of a metropolitan Postal District, — that is the employees must not be

liable to removal with every political change.
They must feel a certain and positive tenure
of their positions so long as their service is
faithful and effective, and provision should
be made for a system of retiring pensions
after a service covering the period of effi-
ciency in the life of employees.

I am, very respectfully

your ob'dt serv't

Dan'l Butterfield.

New York Feb. 15. 1873.

so far as I can get across there seems to be
nothing that would be of value to you in
the way of information concerning the
present condition of the country or
of the various art products now in
circulation so far as the former
is concerned you will
have to depend largely upon
the reports of the various
agents who have been sent
throughout the country
and who are now in touch
with the people in each
should it fail him which
is not very likely he
will be able to get along in holding on
until the appearance of his
agent and consider possibly a
change in his management and
introduction of some
other kind of plant due to



3 0112 062005985